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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/596,647

06/20/2006

Peter Dirksen

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08/31/2010

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

CHEA, THORL

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

08/31/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/596,647 | <b>Applicant(s)</b><br>DIRKSEN ET AL. |  |
|                              | <b>Examiner</b><br>Thorl Chea        | <b>Art Unit</b><br>1795               |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 August 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8, 12, 13 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 12, 13 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This office action is responsive to the response the communication on August 18, 2010; claims 1-8, 12-13, 20 are pending and considered in this office action; and claims 9-11, 14-19 have been canceled.

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 18, 2010 has been entered.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-7, 12-13, 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification disclosure as originally filed fails to provide support for the limitations " subsequently removing the removable protective transparent layer (L4) comprising: " immersing the removable protective transparent layer (L4) in an immersion fluid without dissolving it; altering the solubility of the removable protective transparent layer (L4) after the immersion in the immersion fluid by a flood exposure at a different wavelength to the

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wavelength of the radiation, and dissolving the removable protective transparent layer (L4)” presented in claims 1; and “subsequently removing the removable protective transparent layer (L4) comprising: immersing the removable protective transparent layer (L4) in an immersion fluid without dissolving it, altering the solubility of the removable protective transparent layer (L4) after the immersion in the immersion fluid by a post exposure bake process, and dissolving the removable protective transparent layer (L4)” presented in claim 20.

The whole specification disclosure is related to the coating a substrate with a photosensitive layer; coat the photosensitive layer with a removable protective transparent layer on a the photosensitive layer; immersing the substrate coated with a photosensitive layer and a removable protective transparent layer in immersion fluid (i.e. removable protective layer is not dissolving fluid); and exposing the photosensitive material through the immersion fluid and the protective transparent layer; and then removing the protective transparent layer. The specification disclosure as originally filed does not disclose the use of the step of immersing the removable protective layer in an immersion fluid without dissolving it" in combination with the process of removing the removable protective transparent layer. This step is performed before exposing steps.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-8, 12-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claiming of "altering the solubility of the removable protective transparent layer after the immersion fluid by a flood exposure at a different

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wavelength to the wavelength of the radiation” is unclear with the antecedent basis for “the wavelength of the radiation”. It is also unclear whether “the radiation” is the electromagnetic radiation” used in the step of projecting or otherwise.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 20 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chang et al (US 2005/0123863A1).

Fig.1A contains a material layer (102), a photoresist material (106), and a protective layer (108). The protective layer (108) is capable of preventing out-diffusion of the chemicals in the photoresist layer (106) into the immersion liquid and diffusion of the immersion liquid into the photoresist layer. Fig.1C shows a solubilization step which performed to alter the property of the protective layer (108) so that the corresponding portion of the protective layer (108) are soluble in the development liquid. The solubilization step may included a baking step that make the acid

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produced in the exposed portions (106a) of the photoresist to diffuse into the protective layer (108). See page 2n [0020] to [0030].

Chang may not disclose whether the protective layer is transparent layer, but light can pass through the layer to expose the photoresist layer. Therefore, it asserted that the protective layer taught in Chang et al is transparent to light exposure. In the absence of showing in contrary, it is asserted that the claimed invention is either anticipated or would have been found prima facie obvious to the worker of ordinary skill in the art at the time the invention was made.

### ***Response to Arguments***

10. Applicant's arguments filed July 23, 2010 have been fully considered but they are not persuasive because of the reason set forth above for the reason set forth in the rejection set forth above. Claim 20 is not patentable over Chang et al since Chang et al disclose the performing a solubilizing steps to solubilize the protective layer on the exposed portion of the photoresist in claim 1 and 5. Moreover, the claimed invention is not related to the completely removal of the removable protective transparent presented in the argument. The step of "dissolving the removable protective transparent layer" encompasses the removal the removed portion taught in Chang et al.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TC/  
August 29, 2010

/Thorl Chea/  
Primary Examiner, Art Unit 1795